

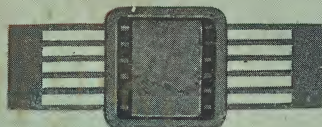
Electrical Connector

PRODUCT DATA SHEET

NUMBER

52

FEB. 1965



DESCRIPTION

The Bendix flat pack is a recent addition to our expanding line of microelectronic products. This flat pack is designed to accommodate an integrated circuit chip (die) and consists of a substrate holder (illustrated above), cover, and solder preform. All are procured separately. One of the more distinctive characteristics of the Bendix flat pack is its superior glass to metal seal which provides an excellent thermal management over a wide temperature range. Additional features include:

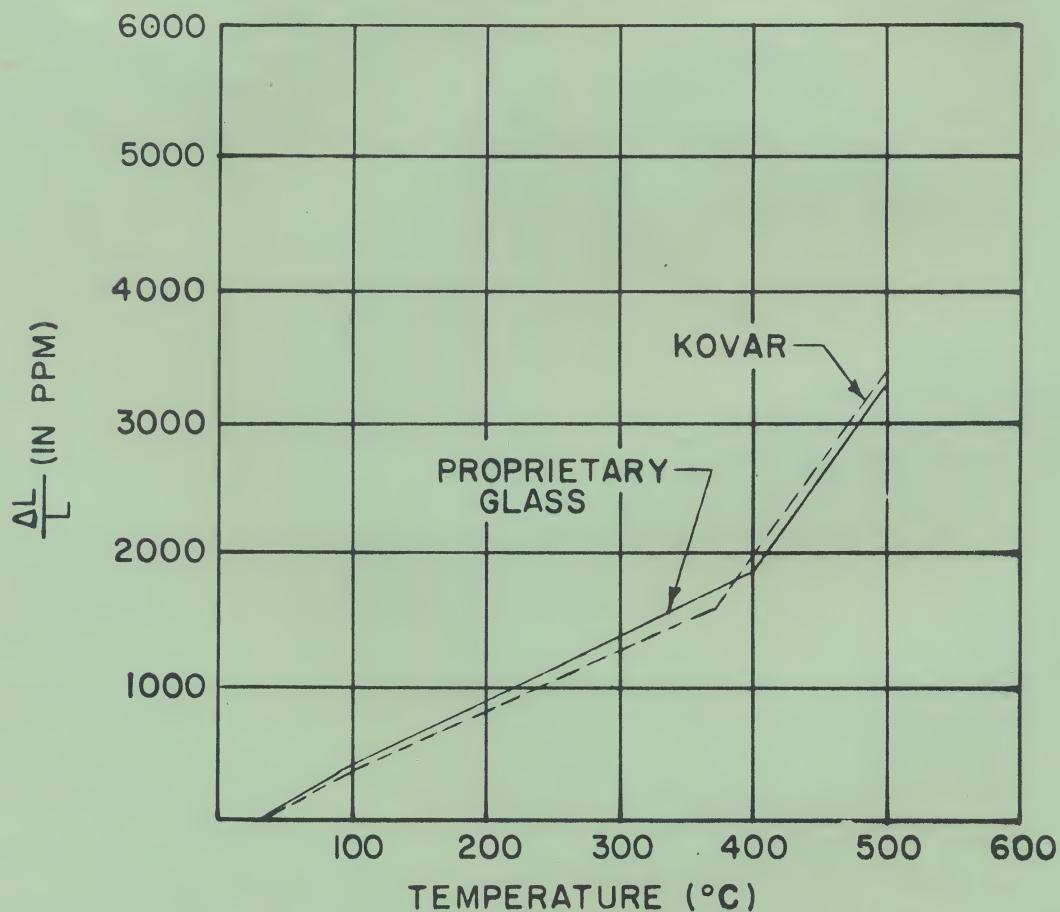
- A final sealing process which utilizes a solder preform. Three different preform alloys can be supplied: A tin-antimony system with a eutectic of 252°C , a gold-tin composition with a eutectic of 280°C and a gold-germanium alloy with a eutectic of 356°C . The gold-tin system is recommended because it insures a wide temperature differential between final seal temperature and the 372°C gold-silicon eutectic of the semiconductor die. It also provides a gold-to-gold interface and incorporates a relatively fine-grained crystalline lattice.
- This flat pack utilizes only two basic material for the matched glass to Kovar seal. A proprietary glass is used which assures excellent thermal tracking over the temperature range of 0°C to $+300^{\circ}\text{C}$. See figure 1.
- Guaranteed package cavity dimensions accommodate a $.210 \times .260$ semiconductor die.
- Glass flow external to the package is kept to a minimum thereby easing the fixturing requirements for final lidding.
- Metal construction provides low thermal resistance, i. e., excellent power dissipation (3 to 4 times greater than glass) and shielding capacity from external noise effects.

Scintilla Division

SIDNEY, NEW YORK

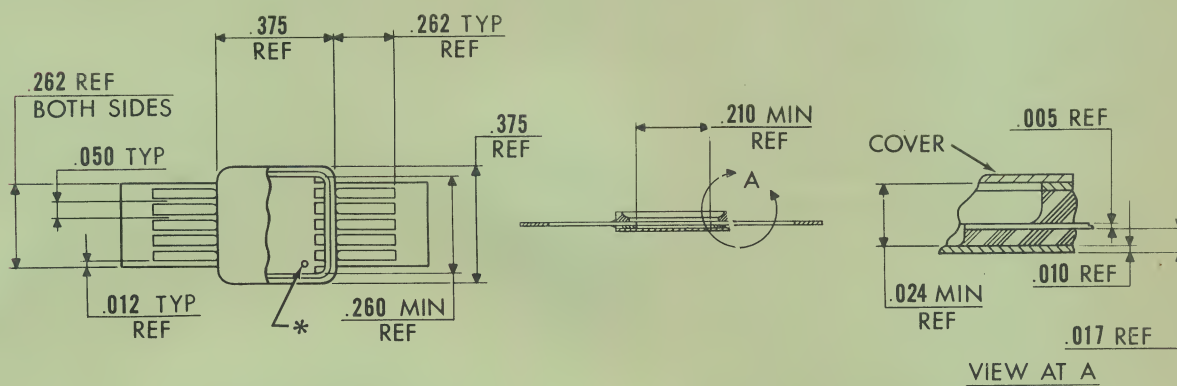


- Plating is 100 microinches of high-density acid gold.
- Lead bonding area is .012 x .020 min.
- Substrate holder leak rate less than 1×10^{-9} cc/sec when subjected to one atmosphere differential pressure of helium.
- Initial offering, 10-299100-1 (substrate holder), 10-299198-1 (cover) and 10-299175-1 (preform) is a 3/8" x 3/8" sq. configuration. See figure 2. A smaller version to be made available soon is the 1/4" x 1/4" square pack with 10 and 14 leads. Also shown dimensionally is a newly developed substrate holder (10-299104-1) with the capability of accommodating a .800 square substrate. See figure 3.
- This package will meet the applicable performance requirements of MIL-STD-202.



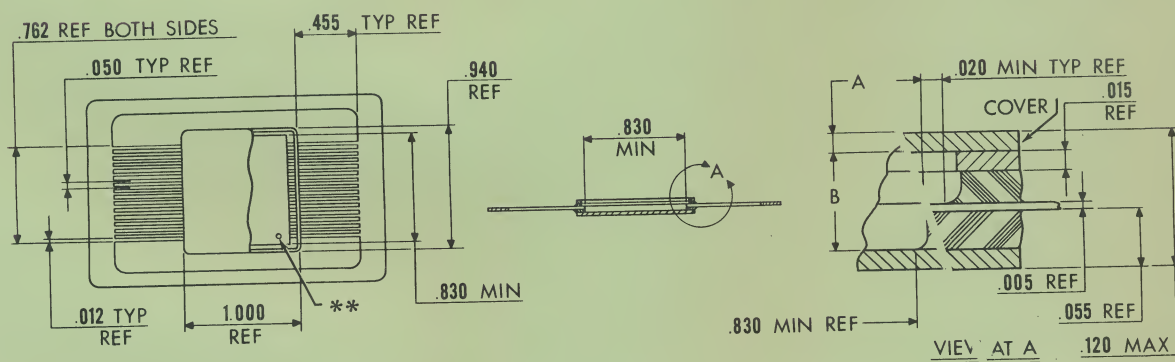
TRACKING CHARACTERISTIC OF
KOVAR AND GLASS SYSTEM

FIGURE 1



*.030 Dia. Dimple for Lead Identification on Base and Cover.

FIGURE 2. 10-299100-1 Substrate Holder, which uses 10-299198-1 Cover and 10-299175-1 Preform.



**.030 Dia. Dimple for Lead Identification on Base and Cover.

FIGURE 3. 10-299104-1 Substrate Holder, which uses 10-299198-2 Cover and 10-299175-2 Preform.

AVAILABILITY

Check with factory for availability of all items.



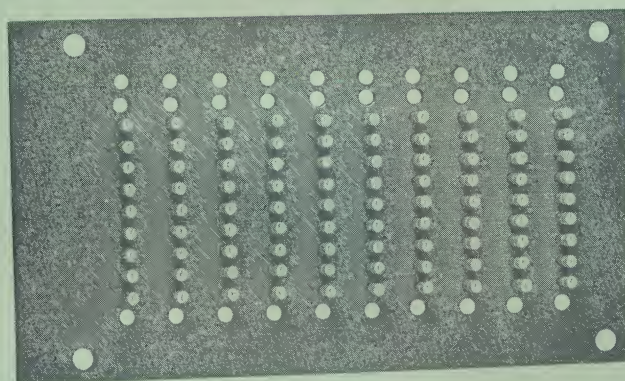
Electrical Connector

PRODUCT DATA SHEET

NUMBER

53

JAN. 196



DESCRIPTION

Three sizes of printed circuit board socket contacts to accept 0.017, 0.025, and 0.030 pin contacts have been established for use in high density packaging systems. These "Button" sockets can be inserted into a printed circuit board (see illustration above) and then wave soldered or soldered by other means for a permanent connection to the board circuitry. High mechanical bond (32 oz. min.) between the closed end protective sleeve and the contact fingers is achieved by both a press fit and a carefully defined and controlled staking operation in 2 places. Entry into the split leaf spring fingers is from the back end of a normal contact; This greatly increases reliability by virtually eliminating bent and broken fingers. Controlled mechanical strength and long durability are features of the contact with 500 mating cycles a minimum requirement.

Engaging and separating forces are kept to a controlled minimum, consistent with good design practices. The contact spring member is Beryllium copper with a brass outer sleeve. Plating is 0.000150 - 0.000280 silver with 0.000050 minimum gold overplate.

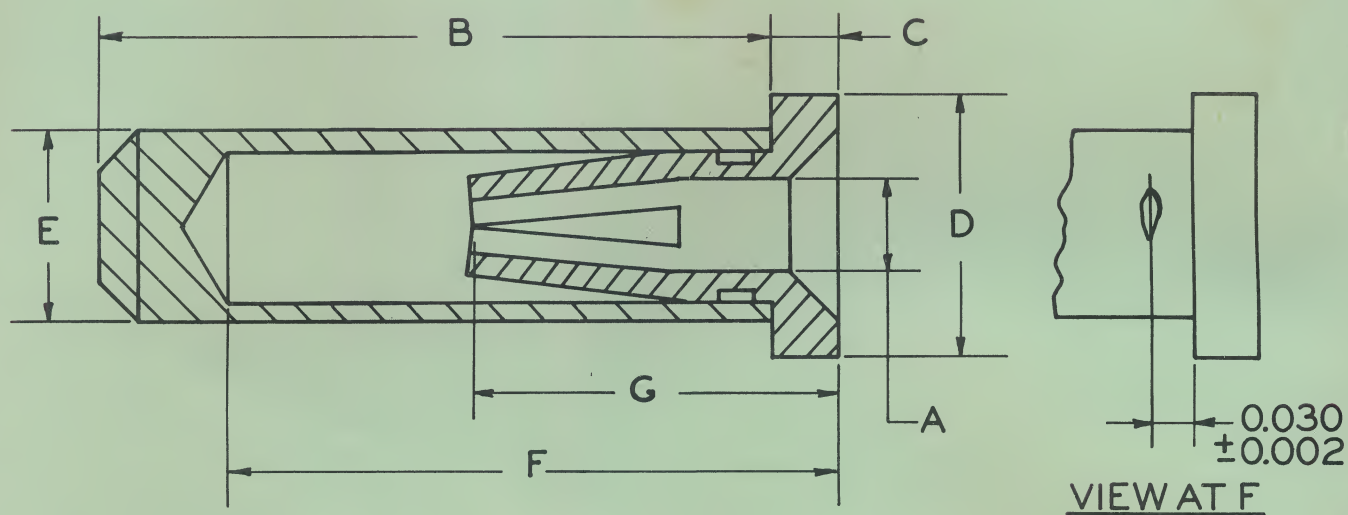
AVAILABILITY

Check with factory for availability.

Scintilla Division
SIDNEY, NEW YORK



Printed in U.S.A.



PART NO.	A DIA. MIN.	B REF.	C REF.	D DIA. MAX.	E DIA. MAX.	F REF.	G MAX.
10-407711-242	.032	.200	.020	.078	.059	.180	.123
10-407711-282	.027	.200	.020	.078	.054	.180	.123
10-407711-322	.021	.200	.020	.055	.048	.180	.123

THE *Bendix* CORPORATION

SCINTILLA DIVISION • SIDNEY, NEW YORK

INTERLOCKING SYSTEMS CO.
ATTN. T. NELSON
BOX 1546
POUGHKEEPSIE, N. Y. 12603

February 16, 1965

Bendix Microelectronic Devices

From time to time we provide our Application Engineers with Data Sheets pertaining to Electrical Connectors and Connection Devices developed by Scintilla Division. Some of these are developed expressly for the micro-electronics field. We believe you will be interested in knowing about such devices and are sending you our latest release regarding them.

Additional information is available. We suggest you phone or write to

Sales Department
Scintilla Division
The Bendix Corporation
Sidney, N. Y. 13838

Phone: 563-9511

Enc.

Data Sheets 52 and 53.